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the east side of Wyde Bay on the northern coast of West Spitzbergen, where Nordenskiöld and Palander wintered in 1872-3, and the expedition expects to use the building then erected on Polhem Island. There will be thirteen in the party.

The British have finally selected Fort Rae for their station.

### MICROSCOPY.<sup>1</sup>

MICROSCOPIC DEXTERITY OF THE COME CUTTERS.—One of the best examples of adroit manipulation under the simple microscope is the operation of cameo cutting as described in an article in *Our Home and Science Gossip*:

"A visit to a cameo cutter's workshop found him seated at a table covered with tools, varying from a triangular-pointed steel instrument to the most delicate pointed bits of steel wire fastened in handles. Very fine files and knitting needles, set in wooden grips and ground to infinitesimal points, figured in the lot. On a pad of leather, before the cameo cutter, was a block of wood just big enough to be grasped with his hand, and cemented to the middle of it was an oval object that looked like a piece of alabaster, just big enough to make a seal for the finger of a man who did not object to wearing large rings. Upon this the artist was just finishing a copy, with a pencil pointed to needle fineness, of a photograph in profile of a gentleman, which was leaned against a little photograph easel before him. Having finished the outline, he laid his pencil by, and taking up a fine wire tool he scratched the pencil mark around with it. Then he took a darning needle with a sharp point and scratched the line deeper. He worked with a magnifying glass at his eye, and stopped continually to inspect the progress of his work with critical minuteness. Then he went at it again, working slowly, scratching over the same line again and again, and always examining after each scratch. He changed his tools as he went on, and from the darning needle descended to a trifling little fragment of steel wire, not as thick as an ordinary sewing needle, set in a slender handle. With this he scratched and re-scratched, until the lines he had drawn with his pencil had quite vanished, and a thin, fine streak of a dark color had marked the outline of the head he had been tracing his way around. Next he took one of his burin-like tools and commenced again. This time he worked on the outside of the outline, cutting and scraping at the surface until the white turned gray, then brown, and finally vanished, leaving the face in relief, surrounded by a black ground—that is, the portrait remained intact in the white substance which formed the outer layer of the cameo, while it had been cut away around it to the lower or dark layer. The portrait or figure is then modulated upon its surface until it assumes the roundness of nature. The edges are left square to the dark ground. This is necessary, as, if they are

<sup>1</sup> This department is edited by Dr. R. H. WARD, Troy, N. Y.

gradually rounded down, the outline becomes undefined toward its juncture with the relieving surface, owing to the white of the raised portion being partially transparent and permitting the dark to show through it when it is thinned down. Care is taken to finish this dark surface as much as possible with the cutting tools, and so separate the white from it as to leave it smooth and unscratched. A final polish is given it, however, with putty powder applied dry with a stiff brush, but the utmost care is necessary in this operation, as the slightest slip will ruin the work. This is the cameo cutter's work, the mountings being the jeweler's work. The cameos sell, unmounted, for about \$25."

THE MICROSCOPE IN THE DETECTION OF FORGERY.—The *Boston Journal of Chemistry* for August, publishes some "interesting paragraphs" from a recent lecture in England, by Mr. Jno. Rogers. The quotations are an abstract, though not so credited, of remarks in Dr. R. H. Ward's lecture on the Practical Uses of the Microscope, delivered as president's address at the Buffalo meeting of the American Society of Microscopists, in August, 1879. Not only is the substance taken from that source, but numerous phrases and entire sentences are copied word for word. Dr. Ward's publication upon the subject was based upon more than twenty years of original work in a field then new and practically unoccupied, and, in appropriating his work, credit should have been given so fully and conspicuously, that it could not be overlooked or misunderstood.

KENT'S INFUSORIA.—The sixth part of Mr. W. Saville Kent's *Manual of the Infusoria*, just issued by David Bogue, of London, completes a work that will be a classic in microscopy. The book is the more remarkable as showing how much of excellent work can be accomplished in a limited time, the author having explained that when he undertook this study, ten years ago, he was but a beginner in practical microscopy. Finding the literature of his chosen subject to be fragmentary and scattered, and practically unavailable, he undertook to compile a manual that should bring to the knowledge of English-speaking microscopists the vast number of species of Infusoria now known to science. It soon became evident that the original plan of covering the broad field occupied by Ehrenberg and Pritchard, was far too comprehensive for the present state of knowledge. A more limited group was therefore adopted, represented by the flagellate, ciliate and tentaculiferous Protozoa; and these have been elaborated with great thoroughness, much original research being incorporated along with the record of previously described forms. Questions of affinity and derivation, of interest in general biology, have been well kept in view; and an additional plate with description of the apparatus specially adapted to the study of infusorial life, will be appreciated even by experienced students. The work comprises three

large octavo volumes; it is lavishly illustrated, and derives additional value from an extensive glossary, bibliography and index.

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### SCIENTIFIC NEWS.

— Professor H. W. Parker, of the Iowa College, Grinnell, Ia., has issued a circular which we are sure will appeal to the generosity of every naturalist and museum in the country, who, we hope, will send duplicates to restore the ill-fated collections of that college. It will be remembered that by the tornado of June 17th, the college buildings were demolished and with them the museum. Professor Parker, the curator, is now in the East collecting specimens and money to restore the collections, and it is hoped that there will be a generous response. The department has earned a claim to help. Without a fund, and mostly by the labors of the curator, the college had accumulated one of the best collections in the West.

— A committee, of which Professor Asa Gray is chairman and Alexander Agassiz is treasurer, has been requested by the English executive committee of the Darwin Memorial to join them in obtaining subscriptions from those in America who may wish to join in this tribute to the memory of Darwin. The form which the memorial is to take has not yet been decided; it will probably include an endowment for a scholarship to carry on biological research.

Subscriptions may be sent to Alexander Agassiz, Cambridge, Mass., who will acknowledge the same and forward them to the treasurer of the English executive committee of the Darwin Memorial.

— Mr. S. A. Forbes, of Normal, Ill., the founder of the Illinois State Laboratory of Natural History, and who has added so much to our knowledge of the food and habits of our birds and fishes, has been appointed State Entomologist in place of Professor Cyrus Thomas, resigned. The appointment is a most fitting one.

— The number of fellows of the Zoölogical Society, of London, is 3213. The total receipts for 1881 amounted to £25,810, while the number of visitors in 1881 were 648,604, and the number of animals were 2294.

— The Hon. George P. Marsh, well known to many of our readers as the author of "Man and Nature," and of a government report on the camel, died in Italy, July 24th. He was born in Vermont in 1801.

— Gen. G. K. Warren, U. S. A. Engineer Corps, who died at Newport, Aug. 8th, was not only a distinguished general, but, in connection with his work published several valuable memoirs on the physical geography of the United States, particularly of the Upper Mississippi. He also commanded several important Government exploring expeditions. He was a member of the National Academy of Sciences.